Conclusion: For the first time we suggest the potential usefulness of IL-2RA as a marker of disease activity in SjS. Notably, IL2RA has been used as a marker to identify CD4+FoxP3+ regulatory T cells. So far, it is known that T follicular helper (Tfh) cell differentiation is inhibited by IL-2 while regulatory T cell differentiation and survival depend on it. Nonetheless, Wing et al. (1) described a CD25- subpopulation within human PD1+CXCR5+Foxp3+ Tfh cells preferentially located in germinal centers which is reduced by the presence of IL-2, possibly explaining the association with disease activity. IL-12p40 is known to have a pathogenic role in SjS (2) and we suggest that it may represent a complementary tool in the evaluation of patients' symptoms. The presence of high levels of IL-15 in SjS is not novel and associated with T cell migration and proliferation in germinal centers. Finally, the observation of very high BAFF/BLyS levels in the male with cryoglobulins will require further analysis.

REFERENCES:

[1] Wing et al. Proc Natl Acad Sci USA. 2017
[2] Mathsson L, et al. Clin Exp Immunol. 2007

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2022-eular.5035

POS0789 CLINICAL FEATURES OF SJÖGREN'S SYNDROME WITH AND WITHOUT NEUROLOGICAL INVOLVEMENT (NEURO-SJÖGREN)

T. Seeliger[1], E. Kramer[2], F. F. Konen[1], S. Beider[2], A. Jablonka[2], T. Witte[2], T. Skripuletz[1], D. Ernst[2]. *[1]Medizinische Hochschule Hannover, Neurology, Hannover, Germany; [2]Medizinische Hochschule Hannover, Rheumatology and Immunology, Hannover, Germany*

Background: Sjögren's Syndrome is well known for its characteristic sicca symptoms due to autoinflammatory destruction of the salivary and lacrymal glands, but neurological involvement is also common in this entity. Nevertheless, previously published smaller studies suggested distinct clinical features for Sjögren's syndrome with and without neurological involvement, such as a more balanced gender distribution and lower IgG levels in patients with Sjögren' syndrome and neurological involvement[1,2].

Objectives: We therefore aimed to systematically assess clinical features of patients with Sjögren's syndrome with and without neurological involvement, find relevant in-between group differences and hereby aid early detection of both patient groups in the clinical routine to facilitate further studies, potentially with new therapeutic approaches.

Methods: We retrospectively assessed patients with Sjögren's syndrome treated at the neurological and rheumatological/ immunological departement of our university hospital between 05/2014 and 09/2021 for available laboratory and clinical data. The displayed data represent preliminary results of this ongoing study.

Results: 405 patients, who fulfilled the current ACR/EULAR classification criteria for Sjögren's syndrome[3] were currently included in the study (median age 59years [IQR 50-70 years], median ESSDAI 10 [IQR 3-16]). 228 patients (56%) showed neurological involvement. They were significantly more often male (32% vs. 14%; p<0.001) and showed lower IgG serum levels (median 11 g/l [IQR 9-13 g/l] vs 12 g/l [IQR 10-16 g/l], p<0.01) in comparison to patients with Sjögren's syndrome but without neurological involvement. However, presence of objective xerostomia, objective xerophthalmia, SSA(Ro)-antibody-positivity or sialadenits grade 3 or 4 (Chisholm and Mason) on salivary gland biopsy did not differ between the two groups.

Conclusion: Preliminary analysis of this ongoing study supports the hypothesis, that patients with Sjögren's syndrome and neurological impairment might express a distinct clinical phenotype in comparison to patients with Sjögren's syndrome but without neurological involvement.

REFERENCES:

[1] Sjögren's syndrome should be considered in patients with motor neuropathy. *Zeitschrift fur Rheumatologie* 2020; 79: 707–709.
[2] Seeliger T, Prenzler NK, Gingele S, et al. Neuro-Sjögren: Peripheral neuropathy with limb weakness in Sjögren's syndrome. *Front Immunol* 2019; 10: 1600.
[3] Shiboski CH, Shiboski SC, Seror R, et al. 2016 American College of Rheumatology/European League Against Rheumatism classification criteria for primary Sjögren's syndrome. *Ann Rheum Dis* 2017; 76: 9–16.

Disclosure of Interests: Tabea Seeliger: None declared, Emelie Kramer: None declared, Franz F. Konen: None declared, Sonja Beider: None declared, Alexandra Jablonka: None declared, Torsten Witte: None declared, Thomas Skripuletz Employee of: Honoraria for lectures: Alexion, Alnylam, Bayer Vital, Biogen, Celgene, CSL Behring, Euroimmun, Janssen, Merck Serono, Novartis, Pfizer, Roche, Sanofi, Siemens, Diana Ernst Consultant of: Participation in Advisory Boards: Abbvie, Galapagos, Amgen, Novartis, Employee of: Fees for Presentations: Abbvie, Amgen, BMS, Chugai, Cilag-Janssen, Galapagos, GSK, Medac, Lilly, Pfizer, Novartis, Roche

DOI: 10.1136/annrheumdis-2022-eular.5036

POS0790 18F-FLUORODEOXYGLUCOSE (FDG) PET-CT IMAGING OF SALIVARY GLANDS IN PRIMARY SJÖGREN'S SYNDROME AND ITS CORRELATION WITH ULTRASONOGRAPHIC SCORES AND SALIVARY FLOW RATE COMPARED TO HEALTHY CONTROLS

K. Abacar[1], T. N. Kıssa[2], K. Oksuzoglu[2], T. Ones[2], G. Mumcu[3], G. Bruyn[4], N. Inanc[1]. *[1]Marmara University School of Medicine, Rheumatology Department, Istanbul, Turkey; [2]Marmara University School of Medicine, Nuclear Medicine Department, Istanbul, Turkey; [3]Marmara University School of Health Sciences, Health Management, Istanbul, Turkey; [4]Reumakliniek Lelystad, Rheumatology, Lelystad, Netherlands*

Background: The use of salivary gland imaging modalities in patients with primary Sjögren's syndrome (pSS) has been increasing recently. The contribution of each imaging method in terms of diagnosis or disease activity differs from each other. Although ultrasound and MRI are the most commonly used imaging modalities, the role of PET-CT for diagnosing pSS and determining glandular and extraglandular involvement has largely been neglected.

Objectives: This study aimed to compare the sizes and metabolic activities of the major salivary glands in patients with pSS and healthy controls (HC). Correlation of the ^{18}F-FDG PET-CT uptake characteristics with ultrasound scores and salivary flow rates of the patients and HC was also determined.

Methods: 22 patients with pSS and 10 age/sex-matched HC were included in the study. The sizes and FDG uptakes of the parotid and submandibular glands of pSS patients and HC were assessed by PET-CT. The maximum standardized uptake value (SUVmax) was evaluated for FDG uptakes, and each patient's liver uptake and salivary gland uptake ratio were calculated. In addition, correlations of gland sizes and FDG uptakes in PET-CT with OMERACT and Hocevar ultrasound scores, stimulated and unstimulated SFR, ESSPRI dryness scores and disease durations of pSS patients were calculated by Spearman test.

Results: The mean age (SD) of the patients was 58.6 years (10.5) versus 58.6 years (19.1) of HC; the mean (SD) disease duration was 8.96 (8.77) years. ANA was positive in all patients, anti-SSA positivity was present in 82.6%, and 30.4% of patients experienced ≥1 parotid swelling episode. Compared to HCs, the mean size of both submandibular glands (p=0.006 for left and p=0.032 for right) and SUVmax of the left submandibular gland (p=0.044) were significantly smaller in patients with pSS. In pSS patients, both right and left parotid sizes were smaller and SUVmax uptake was greater than in HC; these differences however did not reach statistical significance. When the PET-CT involvement characteristics of the patients were compared with the salivary gland ultrasonography scores, there was a statistically significant negative correlation between the left parotid gland size in PET-CT and the ultrasonographic inhomogeneity of Hocevar score and OMERACT score. There was a statistically significant negative correlation between right parotid gland size measured on PET-CT with ultrasonographic inhomogeneity, hyperechoic foci, parenchymal echogenicity, Hocevar total score, and OMERACT score. No statistically significant correlation was found between SUVmax scores detected by PET-CT and ultrasound scores in both parotid glands and submandibular glands. A statistically significant positive correlation was found between the total gland size measured in PET-CT and the unstimulated salivary flow rate (p=0.038, r=0.604). There was a negative correlation between total gland size and ESSPRI dryness scores and symptom duration, which did not reach statistical significance.

Conclusion: PET-CT SUVmax measurements do not provide sufficient information for pSS-related involvement of the major salivary glands. Secondly, size measurement of the parotid glands by PET-CT is associated with OMERACT ultrasound scores, and also the sizes of both submandibular and parotid glands are smaller than HC.

Table 1. Correlations of gland sizes and ultrasonographic scores

Gland		Parenchymal			Hiperechoic		Visibility		
Size (PET/CT)	OMERACT Score	Echogenity	Homogeneity	Hypoechoic Areas	Foci	of Gland Border	Parenchymal Inhomogenicity	Total	
R-Parotis	r	-.699*	-.717*	-.704*	-0,598	-.656*	-0,368	-.758**	-.645*
	p	0,017	0,013	0,016	0,052	0,028	0,266	0,007	0,032
L-Parotis	r	-.699*	-.717*	-.704*	-0,598	-.656*	-0,368	-.758**	-0,482
	p	0,017	0,013	0,016	0,052	0,028	0,266	0,007	0,134
R-Subm	r	-0,011	0.118	-0,011	-0,270	0,203	-0,006	0,247	0.024
	p	0,972	0.714	0,972	0,397	0,526	0,986	0,439	0.942
L-Subm	r	0,245	0,306	0,245	0,071	0,327	0,118	0,306	0,435
	p	0,443	0,333	0,443	0,826	0,300	0,714	0,333	0,158

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2022-eular.5212